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File 5:Biosis Previews(R) 1926-2009/May W1
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Set	Items	Description
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	463811	PHOTO?
S1	11	CLYTIA AND (BIOLUM? OR PHOTO?)

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1/7/1
DIALOG(R)File 5:Biosis Previews(R)

0020915757 BIOSIS NO.: 200900256091
Affine magnetic sorbents supported on coal ash microspheres for recombinant protein isolation
AUTHOR: Frank L A (Reprint); Borisova V V; Vereshchagina T A; Fomenko E V; Anshits A G; Gitelson I I
AUTHOR ADDRESS: Russian Acad Sci, Inst Biophys, Siberian Branch, Krasnoyarsk 660036, Russia**Russia
AUTHOR E-MAIL ADDRESS: lfrank@yandex.ru
JOURNAL: Applied Biochemistry and Microbiology 45 (2): p215-220 MAR 2009 2009
ITEM IDENTIFIER: doi:10.1134/S0003683809020173
ISSN: 0003-6838
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The results of the development and utilization of an affine magnetic sorbent with Ni2+ ions immobilized on coal ash microspheres are reported. The applicability of the material in the isolation of Histag proteins is demonstrated by examples of the recombinant green fluorescent protein from %%%Clytia%%% gregaria and the Ca2+ regulated %%%photoprotein%%% obelin from Obelia longissima. The specific sorption capacity of the sorbent was 2-7 mg/cm(3) for medium-size proteins (20-30 kDa). The particles are suitable for chromatography with the presence of chaotropic agents and EDTA. They are easy to manipulate as isolation of a target protein takes 30-35 min. On the one hand, the elevated affinity of the sorbent to proteins rich in native histidines may result in a high degree of irreversible sorption; on the other hand, it allows isolation of such proteins without the introduction of artificial polyhistidine fragments.

1/7/2
DIALOG(R)File 5:Biosis Previews(R)

0020466319 BIOSIS NO.: 200800513258
Cloning, expression, purification and characterization of an isotype of clytin, a calcium-binding %%%photoprotein%%% from the luminous

hydromedusa %%%Clytia%%% gregarium
AUTHOR: Inouye Satoshi (Reprint)
AUTHOR ADDRESS: Chisso Corp, Yokohama Res Ctr, 5-1 Okawa, Yokohama, Kanagawa 2368605, Japan**Japan
AUTHOR E-MAIL ADDRESS: sinouye@chisso.co.jp
JOURNAL: Journal of Biochemistry (Tokyo) 143 (5): p711-717 MAY 2008 2008
ITEM IDENTIFIER: doi:10.1093/jb/mvn024
ISSN: 0021-924X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The cDNA for an isotype of clytin, a calcium-binding %%%photoprotein%%% from the luminous jellyfish %%%Clytia%%% gregarium, was identified and named clytin-II. The histidine-tagged apoprotein of clytin-II expressed into the periplasmic space of Escherichia coli cells was isolated by nickel chelate affinity chromatography. Recombinant clytin-II regenerated from apoprotein by incubation with coelenterazine was purified. The yield of purified clytin-II was 13mg from 21 of cultured cells with purity > 95%. The luminescence properties of clytin-II were characterized by comparison with clytin-I and aequorin, and semi-synthetic clytin-II was also prepared. The initial luminescence intensity of clytin-II triggered by Ca2+ was 4.5 times higher than that of clytin-I and aequorin, but the luminescence capacity was close to clytin-I and aequorin. Thus, clytin-II is a useful protein, showing high sensitivity in the signal-to-noise ratio of luminescence intensity.

1/7/3
DIALOG(R)File 5:Biosis Previews(R)

0019730016 BIOSIS NO.: 200700389757
Expression, purification and characterization of a %%%photoprotein%%%, clytin, from %%%Clytia%%% gregarium
AUTHOR: Inouye Satoshi (Reprint); Sahara Yuiko
AUTHOR ADDRESS: Mitsubishi Chem Corp, Yokohama Res Ctr, Kanazawa Ku, 5-1 Okawa, Yokohama, Kanagawa 2368605, Japan**Japan
AUTHOR E-MAIL ADDRESS: sinouye@chisso.co.jp
JOURNAL: Protein Expression and Purification 53 (2): p384-389 JUN 2007 2007
ITEM IDENTIFIER: doi:10.1016/j.pep.2006.12.014
ISSN: 1046-5928
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A novel histidine-tagged secretion vector in Escherichia coli was constructed and large amounts of highly pure clytin, a calcium-binding %%%photoprotein%%%, was prepared. The histidine-tagged apoclytin expressed into the periplasmic space in E coli was purified by nickel chelate affinity chromatography. Recombinant clytin was regenerated from apoclytin by incubation with coelenterazine in the presence of dithiothreitol and then purified by anion-exchange chromatography and hydrophobic chromatography. The yield of recombinant clytin was 20 mg from 2 L of cultured cells with purity greater than 95%. Luminescence properties of recombinant clytin were identical to that of native clytin

(phialidin). The Ca2+ sensitivity of recombinant clytin is lower than that of aequorin and clytin is suited for measuring higher concentration of Ca2+. Semi-synthetic clytins were also prepared with coelenterazine analogues, and the initial intensity, luminescence capacity and half decay time were characterized. (C) 2006 Elsevier Inc. All rights reserved.

1/7/4
DIALOG(R)File 5:Biosis Previews(R)

0019455449 BIOSIS NO.: 200700115190
Recombinant GFP of the jellyfish %%%Clytia%%% gregarium: %%%bioluminescent%%% resonance energy transfer (BRET) between %%%photoprotein%%% clytin and GFP
AUTHOR: Markova S V (Reprint); Frank L A; Golz S; Burakova L P; Stepanyuk G A; Lee J; Vysotski E S
AUTHOR ADDRESS: RAS, SB, Inst Biophys, Photobiol Lab, Krasnoyarsk 660036, Russia**Russia
JOURNAL: Luminescence (Chichester) 21 (5): p283 SEP-OCT 2006 2006
CONFERENCE/MEETING: 14th International Symposium on Bioluminescence and Chemiluminescence San Diego, CA, USA October 15 -19, 2006; 20061015
SPONSOR: Int Soc Bioluminescence & Chemiluminescence
ISSN: 1522-7235
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English

1/7/5
DIALOG(R)File 5:Biosis Previews(R)

18793322 BIOSIS NO.: 200600138717
Relationships between benthic diatoms and hydrozoans (Cnidaria)
AUTHOR: Di Camillo C; Puce S; Romagnoli T; Tazioli S; Totti C; Bavestrello G (Reprint)
AUTHOR ADDRESS: Univ Politecn Marche, Dipartimento Sci Mare, Via Brecce Bianche, I-60131 Ancona, Italy**Italy
AUTHOR E-MAIL ADDRESS: g.bavestrello@univpm.it
JOURNAL: Journal of the Marine Biological Association of the United Kingdom 85 (6): p1373-1380 DEC 2005 2005
ISSN: 0025-3154
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Some examples of relationships between hydroids and epibionthic diatoms from the Mediterranean Sea are described, verifying the kind of interaction existing between the two partners. The athecate Eudendrium racemosum hosts an extremely rich diatom assemblage, mainly comprising Licmophora spp., Amphora spp. and Cocconeis spp. On the contrary, only adnate growth forms (Cocconeis pseudonotata, C. dirupta) were observed in diatom communities growing on the external side of thecate species Campanularia hincksii, %%%Clytia%%% linearis and Synthecium evansi. Some diatom species (Cocconels notata, Cylindrotheca sp. and Navicula sp.) are

able to survive in the intrathecal microenvironment. They live in the narrow Space between hydrotheca and polyp, receiving protection and probably using the nutrients produced by hydroid metabolism. Sunlight can penetrate through transparent thecae and reach the diatom layer, making %%%photosynthesis%%% possible.

1/7/6
DIALOG(R)File 5:Biosis Previews(R)

16621447 BIOSIS NO.: 200200214958
Obelin from the %%%bioluminescent%%% marine hydroid Obelia geniculata: Cloning, expression, and comparison of some properties with those of other Ca2+-regulated %%%photoproteins%%%
AUTHOR: Markova Svetlana V; Vysotski Eugene S; Blinks John R; Burakova Ludmila P; Wang B-C; Lee John (Reprint)
AUTHOR ADDRESS: Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA, 30602, USA**USA
JOURNAL: Biochemistry 41 (7): p2227-2236 February 19, 2002 2002
MEDIUM: print
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A cDNA encoding the Ca2+-regulated %%%photoprotein%%% of the %%%bioluminescent%%% marine hydroid Obelia geniculata was cloned and sequenced. The cDNA is a 774 bp fragment containing two overlapping open reading frames, one of which contained 585 bp encoding a 195 amino acid polypeptide which obviously has the primary structure of the apoprotein of a calcium-regulated %%%photoprotein%%%. Many of the residues are identical to those in other Ca2+-regulated %%%photoproteins%%%: 86% compared with that from Obelia longissima, 76% with that from %%%Clytia%%% (Phialidium), 64% with that from Aequorea, and 64% with that from Mitrocoma (Halistaura). The obelin from O. geniculata was overexpressed in Escherichia coli, refolded from inclusion bodies, and purified. The yield of highly purified recombinant protein was 55-80 mg/L of LB medium. O. geniculata obelin has absorption maxima at 280 and 460 nm and a shoulder at approximately 310 nm. The calcium-discharged protein loses visible absorption but exhibits a new absorption maximum at 343 nm. The %%%bioluminescence%%% of the obelin from O. geniculata is blue (lambdamax=495 nm). In contrast, the fluorescence of the calcium-discharged protein is yellow-green (lambdamax=520 nm; excitation at 340 nm). This is in sharp contrast to aequorin in which the %%%bioluminescence%%% and fluorescence emission spectra of the calcium-discharged protein are almost identical (lambdamax=465 nm). The Ca2+ concentration-effect curve for O. geniculata obelin is similar to those of many other %%%photoproteins%%%: at (Ca2+) below approximately 10-8 M, calcium-independent luminescence is observed, and at (Ca2+) approximately 10-3 M, the luminescence reaches a maximum. Between these extremes, the curve spans a vertical range of almost 8 log units with a maximum slope on a log-log plot of about 2.5. In the absence of Mg2+ the rate constant for the rise of %%%bioluminescence%%% determined by the stopped-flow technique is about 450 s-1. The effects of Mg2+ on the kinetics of %%%bioluminescence%%% are complicated, but at all concentrations studied they are relatively small compared to the

corresponding effects on aequorin luminescence. At least with respect to speed and sensitivity to Mg2+, the obelins from both O. longissima and O. geniculata would appear to be more suitable than aequorin for use as intracellular Ca2+ indicators.

1/7/7
DIALOG(R)File 5:Biosis Previews(R)

16087107 BIOSIS NO.: 200100258946
%%%Photosynthetic%%% planulae and planktonic hydroids: Contrasting strategies of propagule survival
AUTHOR: Pagliara Patrizia (Reprint); Bouillon Jean; Boero Ferdinando (Reprint)
AUTHOR ADDRESS: Dipartimento di Biologia, Stazione di Biologia Marina, Museo dell'Ambiente, Universita di Lecce, 73100, Lecce, Italy**Italy
JOURNAL: Scientia Marina 64 (Supplement 1): p173-178 December, 2000 2000
MEDIUM: print
ISSN: 0214-8358
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Settlement delays can be important to prevent propagule waste when proper settling substrates are not immediately available. Under laboratory conditions, the planulae of %%%Clytia%%% viridicans underwent two alternative developmental patterns. Some settled on the bottom, forming a hydranth-gonotheca complex that produced up to four medusae and later either degenerated or gave rise to a hydroid colony. Other planulae settled right below the air-water interface, forming floating colonies that eventually fell to the bottom and settled. Halecium nanum released planulae with a rich population of symbiotic zooxanthellae that survived into a rearing jar for three months. After a long period of apparent quiescence (possibly fuelled by %%%photosynthetic%%% activities of zooxanthellae) the planulae produced new colonies. Both %%%photosynthetic%%% planulae and settlement at the interface air-water allow a delay in the passage from a planktonic to a fully functional benthic life.

1/7/8
DIALOG(R)File 5:Biosis Previews(R)

13047994 BIOSIS NO.: 199598515827
Using GFP to see the light
AUTHOR: Prasher Douglas C
AUTHOR ADDRESS: USDA, APHIS, Build. 1398, Otis ANGB, MA 02542, USA**USA
JOURNAL: Trends in Genetics 11 (8): p320-323 1995 1995
ISSN: 0168-9525
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English

1/7/9

DIALOG(R)File 5:Biosis Previews(R)

11784202 BIOSIS NO.: 199395086468
Cloning and sequence analysis of cDNA for the calcium-activated %%%photoprotein%%%, clytin
AUTHOR: Inouye Satoshi; Tsuji Frederick I
AUTHOR ADDRESS: Osaka Bioscience Inst., 6-2-4 Furuedai, Suita, Osaka 565, Japan**Japan
JOURNAL: FEBS (Federation of European Biochemical Societies) Letters 315 (3): p343-346 1993
ISSN: 0014-5793
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Clytin is a member of the aequorin family of %%%photoproteins%%%. It is made up of 189 amino acid residues, contains 3 Ca-2+-binding site, and shows 62% homology in amino acid residues to those in aequorin. The cysteine, tryptophan, and histidine residues, and the C-terminal proline, that are conserved in aequorin and clytin may be involved in the Ca-2+-activated %%%bioluminescence%%% of the two proteins. Clytin may also prove useful in the determination of Ca-2+.

1/7/10
DIALOG(R)File 5:Biosis Previews(R)

04448863 BIOSIS NO.: 197458024713
OBSERVATIONS ON SOME EPIBIONTS OF GULF WEED SARGASSUM-NATANS
AUTHOR: RYLAND J S
JOURNAL: Journal of Experimental Marine Biology and Ecology 14 (1): p17-25 1974
ISSN: 0022-0981
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: Unspecified

1/7/11
DIALOG(R)File 5:Biosis Previews(R)

04368548 BIOSIS NO.: 197457014403
LUMISOMES THE CELLULAR SITE OF BIO LUMINESCENCE IN COELENTERATES
AUTHOR: ANDERSON J M; CORMIER M J
JOURNAL: Journal of Biological Chemistry 248 (8): p2937-2943 1973
ISSN: 0021-9258
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: Unspecified
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S4         11   E3-E9
S5         13   E5-E6
S6         62   E3-E6
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DIALOG(R)File   5:Biosis Previews(R)
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0019455449 BIOSIS NO.: 200700115190
Recombinant GFP of the jellyfish %%%Clytia%%% gregarium: bioluminescent resonance energy transfer (BRET) between photoprotein clytin and GFP
AUTHOR: Markova S V (Reprint); Frank L A; Golz S; %%%Burakova L P%%%; Stepanyuk G A; Lee J; %%%Vysotski E S%%%
AUTHOR ADDRESS: RAS, SB, Inst Biophys, Photobiol Lab, Krasnoyarsk 660036, Russia**Russia
JOURNAL: Luminescence (Chichester) 21 (5): p283 SEP-OCT 2006 2006
CONFERENCE/MEETING: 14th International Symposium on Bioluminescence and Chemiluminescence San Diego, CA, USA October 15 -19, 2006; 20061015
SPONSOR: Int Soc Bioluminescence & Chemiluminescence
ISSN: 1522-7235
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English

10/7/2
DIALOG(R)File 5:Biosis Previews(R)

16621447 BIOSIS NO.: 200200214958
Obelin from the bioluminescent marine hydroid Obelia geniculata: Cloning, expression, and comparison of some properties with those of other Ca2+-regulated photoproteins
AUTHOR: %%%Markova Svetlana V%%%; %%%Vysotski Eugene S%%%; Blinks John R; %%%Burakova Ludmila P%%%; Wang B-C; Lee John (Reprint)
AUTHOR ADDRESS: Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA, 30602, USA**USA
JOURNAL: Biochemistry 41 (7): p2227-2236 February 19, 2002 2002
MEDIUM: print
ISSN: 0006-2960
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A cDNA encoding the Ca2+-regulated photoprotein of the bioluminescent marine hydroid Obelia geniculata was cloned and sequenced. The cDNA is a 774 bp fragment containing two overlapping open reading frames, one of which contained 585 bp encoding a 195 amino acid polypeptide which obviously has the primary structure of the apoprotein of a calcium-regulated photoprotein. Many of the residues are identical to those in other Ca2+-regulated photoproteins: 86% compared with that from Obelia longissima, 76% with that from %%%Clytia%%% (Phialidium), 64% with that from Aequorea, and 64% with that from Mitrocoma (Halistaura). The obelin from O. geniculata was overexpressed in Escherichia coli, refolded from inclusion bodies, and purified. The yield of highly purified recombinant protein was 55-80 mg/L of LB medium. O. geniculata obelin has absorption maxima at 280 and 460 nm and a shoulder at approximately 310 nm. The calcium-discharged protein loses visible absorption but exhibits a new absorption maximum at 343 nm. The bioluminescence of the obelin from O. geniculata is blue (lambdamax=495 nm). In contrast, the fluorescence of the calcium-discharged protein is yellow-green (lambdamax=520 nm; excitation at 340 nm). This is in sharp contrast to aequorin in which the bioluminescence and fluorescence emission spectra of the calcium-discharged protein are almost identical

(lambdamax=465 nm). The Ca2+ concentration-effect curve for O. geniculata obelin is similar to those of many other photoproteins: at (Ca2+) below approximately 10-8 M, calcium-independent luminescence is observed, and at (Ca2+) approximately 10-3 M, the luminescence reaches a maximum. Between these extremes, the curve spans a vertical range of almost 8 log units with a maximum slope on a log-log plot of about 2.5. In the absence of Mg2+ the rate constant for the rise of bioluminescence determined by the stopped-flow technique is about 450 s-1. The effects of Mg2+ on the kinetics of bioluminescence are complicated, but at all concentrations studied they are relatively small compared to the corresponding effects on aequorin luminescence. At least with respect to speed and sensitivity to Mg2+, the obelins from both O. longissima and O. geniculata would appear to be more suitable than aequorin for use as intracellular Ca2+ indicators.

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Set     Items   Description
S1         11   CLYTIA AND (BIOLUM? OR PHOTO?)
S2         18   AU='GOLZ STEFAN'
S3         20   E4-E6
S4         11   E3-E9
S5         13   E5-E6
S6         62   E3-E6
S7         68   S S2 OR S3 OR S4 OR S5 OR S6
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